

### Patent Claims

1. A dispenser for paste-like products comprising a substantially cylindrical container (1) which contains the paste-like product and which is equipped at the bottom side with a follower piston (22), which is slidingly displaceable on an inner wall of the container under pressure of the external atmosphere, and at its upper end carries a headpiece (3) which is slidingly displaceable relative to the container (1) and comprises a discharge channel (32) for the product, which is connectable in communicating fashion to the container (1), and acts on a manually operable delivery means with a delivery chamber (100) of a variable volume for the product, **characterized in**

that the delivery means comprises a delivery element (5) which is longitudinally displaceable relative to the container (1) and the headpiece (3) and includes a delivery piston (51) which is slidingly displaceable in the delivery chamber (100) and is connected to a delivery shaft (50) which circumferentially surrounds a delivery channel (50a) which comprises a delivery channel inlet opening (53) communicating with the delivery chamber (100) and a delivery channel outlet opening (58) which can be brought by a displacement movement of the delivery element (5) relative to the headpiece (3) into a position in which the delivery channel outlet opening (58) opens towards the discharge channel (32).

2. The dispenser according to claim 1, **characterized in** that the delivery channel outlet opening (58) is recessed on the circumferential surface of the delivery shaft (50) and that the headpiece (3) comprises a bushing covering the delivery channel outlet opening (58) in the initial position (0) of the delivery means.



3. The dispenser according to claim 1 or 2, **characterized in** that the bushing is designed as a guide bushing (31) which guides the delivery means in a longitudinally displaceable manner and which comprises at least one guide surface cooperating with the circumferential surface of the delivery shaft (50).
4. The dispenser according to any one of the preceding claims 2 or 3, **characterized in** that the headpiece (3) and the delivery means have provided thereon entraining means (34, 57) by which the delivery means is entrained after manual operation during resetting of the headpiece (3) into the initial position (0).
5. The dispenser according to claim 4, **characterized in** that the bushing (31) has formed thereon an entraining shoulder (57) which cooperates with an entraining rim (34) formed on the delivery shaft (50).
6. The dispenser according to claim 5, **characterized in** that the entraining shoulder (34) is provided at the end side on the bushing (31) at the transition to the discharge channel (32) and the entraining rim (57) in the end portion of the delivery shaft (50) at the front side.
7. The dispenser according to any one of the preceding claims, **characterized in** that the delivery piston (51) radially projects beyond the delivery shaft (50) for forming an annular contact surface (51a) and that the guide bushing (31) has a pressure surface (33) at the front side that is arranged in the initial position (0) at an axial distance relative to the contact surface (51a) and can be placed by axial displacement of the headpiece (3) towards the container (1) on the contact surface (51a).
8. The dispenser according to any one of the preceding claims, **characterized in** that the inner wall of the delivery chamber (100) is formed by an inner sleeve (13)



which at the front side of the container (1) at the headpiece side is provided on the container (1) at the side facing the headpiece (3).

9. The dispenser according to any one of the preceding claims, **characterized by** a mating headpiece (4) which comprises a holding cylinder (41) put over the inner sleeve (13) in the manner of a cup, and a guide cylinder (42) which is arranged concentric to the holding cylinder (41) and guides the sliding displacement of the headpiece (3).

10. The dispenser according to claim 9, **characterized in** that the end of the guide cylinder (42) at the delivery chamber side comprises a delivery piston stop (42d) [sic] for the delivery piston (51).

11. The dispenser according to claim 9 or 10, **characterized in** that the holding cylinder (41) is provided with an annular shoulder (44) at the bottom side which forms a contact surface for a coil spring holding the headpiece in the initial position (0) under bias and is put on the front side of the container (1).

12. The dispenser according to any one of claims 9 to 11, **characterized in** that the mating headpiece (4) comprises at least one stop (46a) for defining the axial displacement movement of the headpiece (3) and is formed together with the headpiece (3) as a prefabricated dispenser component and is fastened at the front side to the container (1).

13. The dispenser according to claim 12, **characterized in** that the dispenser component is locked with the container (1) via locking means (47; 17) formed on the mating headpiece (4) and the front side of the container (1).



14. The dispenser according to any one of the preceding claims, **characterized in** that the headpiece (3) is longitudinally displaceable such that the headpiece (10) can be brought by manual operation from the initial position (0) first by a first axial distance (a) for contact with the delivery piston with simultaneous exposure of the delivery channel outlet opening (58) in the discharge channel (32) into a central position (M) and the headpiece (3) can then be brought with a progressive axial displacement with entrainment of the delivery piston (51) from the central position (M) into a discharge end position (V) in which the delivery chamber (100) has reached its minimum volume by displacement of the delivery piston (51).

15. The dispenser according to any one of the preceding claims, **characterized by** a closure member (60) which is fixed to the headpiece and by which a product discharge opening (39) of the discharge channel (32) can be closed.

16. The dispenser according to claim 15, **characterized in** that the product discharge opening (39) is formed as a ring around a closure mandrel (32a) arranged in the discharge channel, and that the closure member (60) has an annularly formed sealing lip which can sealingly be placed on the closure mandrel.

17. The dispenser according to claim 15 or 16, **characterized in** that the closure member (60) is made from a flexible plastic material, preferably from a thermoplastic elastomer.

18. The dispenser according to any one of claims 15 to 17, **characterized in** that the closure member (60) is integral with a coating (61) formed at least at the front side on the outside of the headpiece (3).

